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# **THE IMPACT OF ONLINE BANKING ON CUSTOMER SERVICE DELIVERY IN THE MALAYSIAN BANKING INDUSTRY: KANO'S MODEL APPROACH**

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**Abstract :** *This study is about the impact of online banking on customer service delivery in Malaysian banking industry. Due to the challenges of globalization and intensive competition, Banks were compelled to comprehend the services of online banking in order to entice the existing and the potential customers. Although, the level of awareness is relatively high; but still only 64% patronize online banking in Malaysia. It is against this background that this paper seeks to examine the significant factors that may cause online banking to have an impact on customer service delivery with the ultimate aim of either accepting or rejecting any preconceived idea of the researcher. The study employed some hypotheses in order*



to guide the research in achieving the overall aim of the research as well as testing the stated hypotheses. Behavioral factors such as security, convenience and cost were the main concern of the respondents towards effective service delivery. The study reveals that "Cost" is the major driver of effective service delivery of online banking services in Malaysia. Equally, the study also explores various implications of the research.

**Keywords:** Behavioral Factors, Customer Service Delivery, Kano's Model, Malaysian Banking Industry, Online Banking.

## **INTRODUCTION**

Strong online banking services are an important driver in the banking industry for Bank's performance and customer service delivery. It can have a significant effect in supporting economic development through efficient financial services. Aliyu and Tasmin (2012a). As the banking industry becomes global in nature, faces a competitive environment; banks are forced to balance the goals of outreach and sustainability. Thus, online banking may be the instigator of this new environment and the prime mover in terms of providing the potential solution for bank's survival in the near future (Anyasi, et al 2009; Musiime, 2010; Hazlina, et al 2011a and Hazlina, et al 2011b). Research has proven that, electronic banking services (EBS) are the wave of the future banking by providing enormous benefits to consumers in terms of ease and cost of transactions through online banking (Nsouli, et al, 2002).

Due to little research conducted in Malaysia in the areas regarding accessing the external factors that entice or discourage customers to patronize online banking, there is a strong need for this study to address two major issues,

- i. The first one is to conduct an empirical study so as to assess the significant factors that may cause online banking to have an impact on customer service delivery in Malaysian commercial banks.
- ii. Secondly, there is a need to examine the relationship between the factors that may affect online banking and online banking services in Malaysian commercial banks.

By understanding the basic factors that encourage customers to patronize online banking, this will go a long way in reaping the benefits of online banking and also for banks to remain competitive and profitable in the long run.

## **RELATED WORKS**

Behavioral (external) factors are the important determinants of online banking adoption as disclosed by Rahmath, et al., 2011. Behavioral factors pertaining to

convenience, security, cost, prior experience and volume of transaction where the focus of this study as they have a reciprocal influence on customer service delivery (Suganthi, 2010; Ombati, 2010 and Ahmad, 2011).

- i. Cost is one of the major factors that influence consumers' adoption of innovation. Aliyu & Tasmin (2012a), stated that for consumers to use new technologies, the technologies must be reasonably priced relative to alternatives. Otherwise, the acceptance of the new technology may not be viable from the standpoint of the customer.
- ii. Security is another very important factor in determining the decision of customers to use online banking. Aliyu & Tasmin (2012b), identify "security" as an important characteristic from a customer's perspective on the adoption of innovation.
- iii. While, convenience is considered to be an influential factor for the use of online banking. Still, there is a positive relationship between convenience and service delivery via online banking, such as the ability of online banking to meet users' needs using the different feature availability of the services. (Malarvizhi, 2011)

Previous researches reveal that customers are more sensitive to the behavioral factors mentioned above in terms of customer service delivery via online banking than the internal factors. This means that there is a direct relationship between technology and behavioral (external) factors in the adoption of online banking. Therefore, the level of online banking adoption will directly impact on the degree to which the customers are satisfied, in terms of the behavioral factors (Musiime, 2010). This reveals that effective service delivery on behavioral factors may result to customer loyalty (which impacts their future utilization of online banking patterns) in relation to other factors just like it has on customer satisfaction. Thus, banks should give high priority to behavioral factors and should consider it as important key drivers towards successful implementation of online banking (Khong, et al., 2006; Nek, et al 2009; Shirshendu and Sanjitkumar, 2011).

According to Parasuraman et al., (1985), the study of customer service delivery has gained interest just after the concern on improving the quality of products and services become increasingly important in the globe. Today, information and communication technology, competition, deregulation and globalization have changed the landscape of the banking industry in such a way that it is characterized based on the services the banks offer to customers across the globe. This is one of the major reasons why the banking industry is among the most intense in deploying high technology innovation. (Drucker, 1985a; Drucker, 1999b and Shoebridge, 2005). It is noticeable that online banking, enabled banks to service customers not only in

branches and other dedicated services sites, but also in a myriad of other channels (Lovelock, 1996 and Al-Hawari, et al., 2005). Thus, delivering effective customer service is indeed an important marketing strategy (Berry and Parasuraman, 1995), but the difficulty in defining customer service delivery in deploying a specific contextual instrument for measuring such constructs represents important constraints for the banks to approach their markets.

For the purpose of understanding the factors influencing online banking services towards customer service delivery, this paper proposes a conceptual model (see figure 1). This conceptual model is developed based on several previous studies related to electronic banking, behavioral factors, banking application, and customer service delivery.



**Figure: 1** *Conceptual Research Model (Source: Literature Survey, 2012)*

The following hypotheses are developed based on the conceptual model and literature review discussed:

***Ho1** There is a significant relationship between cost and online banking in Malaysian banking industry.*

***Ho2** There is a significant relationship between convenience and online banking in Malaysian banking industry.*

***Ho3** There is a significant relationship between security and online banking in Malaysian banking industry.*

***Ho4** There is a significant relationship between online banking and customer service delivery in Malaysian banking industry.*

***Ho5** There is a significant relationship between customer service delivery and customer's satisfaction in Malaysia banking industry.*



## RESULT AND METHODS

The research framework of this study is based on the adaptation of Kano's Model first developed by Professor Kano in 1984. The Kano's model of customer satisfaction seeks to explain how assigning priorities to operational objectives may result in lasting improvements in customer service delivery. Essentially, the Kano's model is used for the classification of product and services based on understanding wishes and the way it affects customer's satisfaction. Kano (1984) suggests a model that helps researchers distinguish between three types of product/service requirements which influence customer satisfaction in different ways when met. Thus, the Kano's model is viewed in the perspective of online banking service on customer service delivery. In fact, Kano's diagram (seen figure 2) shows customers' satisfaction in relation to the product/service level and the quality of service delivery.

In addition, Professor Kano believes that for effective customer service delivery, banks should make sure that the level of service delivery such as security, convenience and cost should meet all of the customers' requirements and not only what the customer states (Bhattacharyya and Rahman, 2004). The essence of choosing the Kano's model in this study is because, the model could provide a unique opportunity for understanding the impact of online banking on customer service delivery and identify the categories of behavioral factors to be managed. Secondly is to support the Malaysian banks in strategizing their decision toward enhancing effective and efficient customer service delivery. Hence, this model shows the best way for putting the fundamental principles of good behavioral factors in place and continually expanding and enriching that set of principles which makes it easy to apply in different situations.

In addition, research has proven that, one of the economic methods to achieve effective customer service delivery in the service industry is through Kano's model which has been registered (Ardhiyani, 2012). The study considers online banking as the major tool of interaction with customers, while behavioral factors such as security, convenience and cost are classified as banking capabilities at the root of effective customer service delivery.

Threshold Attributes - Must-be

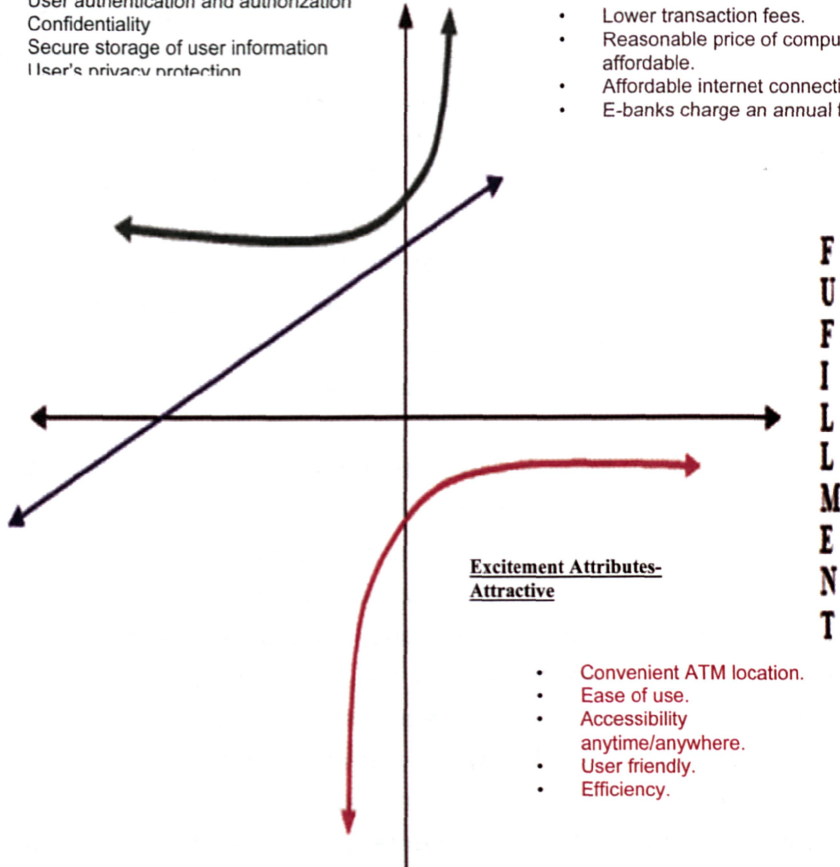
- Physical access control to the machine
- User authentication and authorization
- Confidentiality
- Secure storage of user information
- User's privacy protection

**Satisfied**

Performance Attributes- One-dimensional requirements

- Lower transaction fees.
- Reasonable price of computers and affordable.
- Affordable internet connection fees.
- E-banks charge an annual fee.

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Excitement Attributes-  
Attractive

- Convenient ATM location.
- Ease of use.
- Accessibility anytime/anywhere.
- User friendly.
- Efficiency.

**Dissatisfied**

Figure 2: *Kano's Model Customer Satisfaction, with Some Modifications (Kano et al, 1984).*

The research data was collected through questionnaires base on the various research conducted, in which the questionnaires were modified so that it suite the research's intention towards examining some behavioral factors that influence the service of online banking in Malaysia. The questionnaires contain 40 questions that measure 3 independent variables, one intervening variable and one dependent variable. The research use 8 questions to measure the respondent profile and 6 questions each to answer the customer's perception of security, cost and convenient.

Table 1: *Description of Questionnaire Used*

Item	Variable	Sample Question	Source
6	Security	I feel Banks should focus on important aspects of security and privacy of Online banking	Fleming, N. (2011), Abdullah et al.. (2011), Suganthi, (2010) and Poon and Tan (2008)
6	Cost/Price	I feel my bank cost/charges is expensive compared to other banks.	Suganthi, (2010), Poon and Tan (2008) and Felix et al (2011); Felix et al (2011)
6	Convenient	I feel the convenience of Online Banking has an influence on customer satisfaction.	ThotH Thomas et al. (2010), Suganthi, (2010), Poon and Tan (2008)
6	Online banking	I feel there is a need for further enhancement on Online Banking to satisfy customers.	Abdullah et Al. (2011); Ms. Malarvizhi V (2011), Hazlina et al (2011), Goi, C. L. (2006), Felix et al (2011)
8	Customer service delivery	I feel, the key to success for online Banking lies in knowing customers current and future needs	Musiime, (2010), Hazlina et al (2011)

Source: Field Survey (2012)

The research uses the 5 point Likert-scale to collect the data, ranging from 1= Strongly Disagree, 2 = Disagree, 3 = Moderate, 4 = Agree and 5 = Strongly Agree. Moreover, additional questions were used to determine the respondents' age, gender, race, marital status, level of education and the number of years of being a customer in a particular bank. We also include 2 questions regarding behavioral factors for the respondent to rank the most important to the least important. The study uses the "Friedman non-parametric test" to see whether the respondents rank them differently. The researchers decided to adopt the convenient sampling techniques because of two reasons:

- i. It is against the banking ethics to issue out the list and address of their customers.
- ii. It is also against the (BAFIA) policies to obtain the list and address of customers of a particular bank or financial institution. (Ramayah, 2003).

These reasons compel the researchers to visit each bank during working hours to administer the questionnaires to the respondents and collect the response immediately from the customers. A total number of 50 questionnaires were distributed using an intercept survey.

## FINDINGS

A total number of 50 questionnaires were distributed, out of which only 37 were retrieved back, in which 7 were incomplete. Thus, 7 questionnaires were discarded and only 30 questionnaires were accurately responded, thereby giving a response rate of 60%. The profile of the respondent is presented in Table 2, in which the respondent comprised of males 18 (60%) and 12 females (40). This means that male patronize online banking more than their female counterpart. The respondents were between the age of 18 years old and above, whereby 33% are 26-35 years old, 47% are 36-45b years old. The majority of the respondents are Bachelor and Masters Degree holders, that constituted up to 87%, this indicates that those with less education use online banking services less than the way educated people do in Malaysia. While 80% of the respondents had used the online banking for more than 2 years.

Table 2: Profile of the Respondents

Demographic		Frequency	Percentage
Gender	Male	18	60%
	Female	12	40%
Age	18 – 25 years	2	7%
	26 – 35 years	10	33%
	36 – 45 years	14	47%
	46 – 55 years	3	10%
	Above 55 years	1	3%
Education Level	Sec, school or equivalent	1	3%
	Degree or equivalent	8	27%
	Masters or equivalent	18	60%
	PhD or equivalent	3	10%
Number of years using Online banking	< 1 year	3	10%
	2 - 5 years	11	37%
	6 -10 years	8	27%
	11 -20 years	4	13%
	> 20 years	4	13%
Marital Status Single	Single	10	33%
	Married	19	63%
	Divorced	0	0%
	Widowed	1	3%

Source: Field Survey (2012)

Sequential regression analysis was used to test the hypotheses, which is to determine the relationship between security, cost, convenience and online banking towards effective customer service delivery in the banking industry. Therefore, to determine the relationship between the independent variables (cost, convenience and security), intervening variable (online banking) and the dependent variable (customer service delivery); the study uses the hierarchical regression, so that it can provide a comprehensive explanation of the conceptual framework.

Table 3: *Descriptive Analyses*

	Mean	Std. Deviation	N
CSD	4.0208	.93431	30
Cost OB	3.7556	.84615	30
Conv OB	3.9778	.97648	30
Sec OB	4.1500	.92987	30
OB	3.9667	.90168	30

Source: Field Survey (2012)

From the table above, it can be seen that the Likert-scale is from 1- 5, in which the study consider "Cost" of online banking that has the mean of 3.7556 with the lowest standard deviation of .84615.

Table 4: *Correlation*

		CSD	CostOB	ConvOB	SecOB	OB
Pearson Correlation	CSD	1.000	.603	.723	.851	.605
	CostOB	.603	1.000	.660	.573	.669
	ConvOB	.723	.660	1.000	.807	.859
	SecOB	.851	.573	.807	1.000	.742
	OB	.605	.669	.859	.742	1.000
Sig. (1-tailed)	CSD	.000	.000	.000	.000	.000
	CostOB	.000	.000	.000	.000	.000
	ConvOB	.000	.000	.000	.000	.000
	SecOB	.000	.000	.000	.000	.000
	OB	.000	.000	.000	.000	.000
N	CSD	30	30	30	30	30
	CostOB	30	30	30	30	30
	ConvOB	30	30	30	30	30
	SecOB	30	30	30	30	30
	OB	30	30	30	30	30

Source: Field Survey (2012)



From the table 4 above, the correlation matrix is a first approximation that allows to examine the convergent and discriminant validity of the item measures for each construct. Measures for a construct should relate highly to each other and less highly to measures of other constructs (Afrouz, 2007). Thus, all the independent variables (Cost, Convenience and Security) are significant in determining effective customer service delivery on the online banking in Malaysia.

Table 5: *Model Summary*

<b>Model Summary</b>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.863 <sup>a</sup>	.744	.715	.49884	.744	25.244	3	26	.000
2	.875 <sup>b</sup>	.765	.727	.48799	.020	2.169	1	25	.153

a. Predictors: (Constant), Sec OB, Cost OB, Conv OB

b. Predictors: (Constant), Sec OB, Cost OB, Conv OB, OB

Source: Field Survey (2012)

From the table above, it can be seen that from the first model when cost, convenience and security were added, then (R) of 0.863 was arrived at, while the ( $R^2$ ) is 0.744 this means that 71.5% of the variability (customer service delivery) is being accounted for (cost, convenience and security), while the adjusted ( $R^2$ ) is 0.715, which means that the sample size and the predictors are descent enough to determine customer service delivery. The R Square change in the first model as it could be noticed is 0.744 and is also the same with R Square of 0.744, which means that the model has started with no prediction capacity.

In the same vein, when the three independent variables were added, The result got was ( $R^2$ ) of 0.744, this indicates that the R Square Change is the same thing. The Sig. F Change which is  $0.000 < 0.01$ , this means that the ( $R^2$ ) is 0.744, adjusted ( $R^2$ ) is 0.715 and ( $R^2$ ) 0.744 are statistically significant. From the Anova table we can see that the F Value is 25.244, which corresponded with the F change in the first model with a degree of freedom (df1) 3, which is statistically significant  $0.00 < 0.01$ , this mean that all the predictors of model (one) are highly significant in determine customer service delivery vie online banking in Malaysia.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.845	3	6.282	25.244	.000 <sup>b</sup>
	Residual	6.470	26	.249		
	Total	25.315	29			
2	Regression	19.362	4	4.840	20.326	.000 <sup>c</sup>
	Residual	5.953	25	.238		
	Total	25.315	29			

a. Dependent Variable: CSD

b. Predictors: (Constant), Sec OB, Cost OB, Conv OB

c. Predictors: (Constant), Sec OB, Cost OB, Conv OB, OB

Source: Field Survey (2012)

From the summary table above, it can be noticed that the model (two) has a new (R) value (0.875), the increase of the value is as a result of variable (online banking) that is added into the model as the predictor variable. At the same time, the ( $R^2$ ) 0.765 has also increased to a value of which means that 20% increase as a result of adding online banking in the model as the predicting capacity and this increase is as associated with the F Change Value 2.169 with 1 degree of freedom (df) and the F Change which is  $0.00 < 0.01$  signifies statistically significant.

Table 7 : Coefficients correlation

Coefficients <sup>a</sup>								
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	.171	.474	.360	.722			
	Cost OB	.186	.146	.168	1.271	.603	.242	.126
	Conv OB	.009	.176	.010	.054	.723	.011	.005
	Sec OB	.750	.169	.747	4.434	.000	.851	.656
	(Constant)	.295	.471	.626	.537			
2	Cost OB	.242	.148	.219	1.634	.115	.603	.311
	Conv OB	.190	.211	.199	.900	.377	.723	.177
	Sec OB	.786	.167	.782	4.698	.000	.851	.685
	OB	-.303	.206	-.292	-1.473	.153	.605	-.283
	(Constant)							

a. Dependent Variable: CSD

From the coefficient table, it can see that the entire variables in the model one, have a ( $\beta = 0.168, 0.10$  and  $0.747$ , which  $p < 0.01$ ) this means that the variable are statistically significant. The second model shows that, out of the variables is only online banking that has a negative value of ( $\beta - 0.292$ ), which is not statistically significant and this means that online banking has no direct bearing on enhancing

customer service delivery in the banking industry. In the sense that customers do value the behavioral factors, such as cost, convenient and security before accepting and utilizing online banking in Malaysia.

Table 8: *Result of Non-Parametric Tests*

Selected variables	Mean rank	Ranking
Cost of Online Banking	1.50	1
Convenient of Online Banking	2.02	2
Security of Online Banking	2.48	3

Source: Field Survey (2012)

However, additional analysis was conducted using non- parametric test, for the purpose of this analysis is to investigate the customers concern and to find out the most preferable behavior that really impact on customer service delivery. Malaysian customers ranked cost as the major concern for the customers in online banking. Then, followed by the level of conveniences and the last one of interest to the Malaysian customer is security. The Friedman Test is significant ( $\chi^2 = 15.694$ ,  $p < 0.01$ ).

## DISCUSSION

The primary objective of the research is to examine the behavior factors, such as cost, convenience and security on how they influence online banking in Malaysia toward effective customer service delivery. The study also examines the context of online banking toward effective customer service delivery in the banking industry. The research has proven that, the context of online banking has no direct bearing in influencing customer service delivery, rather the behavioral factors (cost, convenience and security). This means that customers do value and satisfied with online banking ones the bank charges is low or affordable, the service is convenient or user friendly and their financial transaction is secured. On the same vein, in the long run customers may prepare for normal queuing branch banking ones they perceive the online banking is solely based on normal services rather than on putting into consideration of the behavioral factors (cost, convenience and security). This finding has also supported the findings of Musiime (2010) and Hazlina et al (2011). The research also shows that, cost of online banking has a more significant impact than convenience and security of online banking toward effective customer service delivery. In addition, the cost of online banking is also a direct mediator between online banking and effective customer service delivery in the banking industry. This means that behavioral factors or external factors, such as cost, convenience and security have a direct impact on effective customer service delivery via online banking. These findings buttress the finding of Suganthi (2010) and Malarvizhi (2011). Thus, these findings have become paramount for strategic decision for the

management of Malaysian banking industry to understand that, although customers do value online banking but they consider the "cost" as the most priority, followed by the convenience of online banking, then the security aspect of online banking as a gauge on intention to fully utilize online banking. This means that, banks need to develop online banking and other related product and services that are cost affordable across all customers.

However, based on the 5 Likert-scale, the mean value of 3.76 is at the high site. This indicated that majority of the customer do patronise and handle a lot of online banking transaction, which means there is the need for banks to come up with varieties of online banking product at lower cost/charges that may attract more customer, because the higher the turnover of every transaction the higher the profit of the bank, and this can only be possible if there are availabilities of product at a lower cost/charges that will attract huge amount of customers.

Thus, this research is significant in such a way that it has the potentials evidences of using the Kano's Model for effective customer service delivery in the banking industry or other similar service industry.

## **IMPLICATION AND LIMITATIONS**

Due to the extensive level of globalization and competition, there is the need for banks to grab this opportunity of online banking, so that to establish wider customer base irrespective of geographical location. There is the need for banks to advertise and promote the level of low cost/charges as a marketing strategy to attract more customers to patronize online banking. And this promotion can be through Jingles, Road shows, TV, Radio, Internet etc. Moreover, it is hoped that online banking will continue to grow and play a big role in supporting the economy of Malaysia, once there is a support from the Malaysian government by coming up with stiffer sanction that would guide against online banking and other related frauds.

Hence, the limitation of this research are:

- i. Time constraint has resulted in getting small sample size.
- ii. The scope of the research is only within Johor State, as such this might not be truly representative of the entire population towards effective customer service delivery via online banking.
- iii. As most of the respondents have not used online banking for quite a long time, this may also not be a true representative of the entire population.

- iv. The key behavioral factors are adopted from the previous research, this mean that it's possible that some vital determinant of effective customer service delivery are left behind in this research.
- v. This research has provided a road map for effective customer service delivery via online banking, this mean that there is the need to arouse future research on other similar related electronic banking product such as mobile banking, ATM and point of sale's terminal at a different geographical location so that to understand the reaction of the same behavioral factors (cost, convenience and security). Thus, there is the need to intensify research on electronic banking services.

## CONCLUSION

This is a research paper in progress which provides an overview of the impact of online banking services on customer service delivery in the Malaysian banking industry: using the Kano's model. The paper addresses a number of issues identified from the literature. An extensive review of the existing literatures on the impact of online banking services on customer service delivery in the banking industry were discussed. The paper, therefore, addresses issues related to electronic banking services and behavioral factors as well as customer service delivery. It is clear that advertising alone cannot convince the non-users of Online banking to start using the services. Thus, the finding is encouraging in such a way that it provides some theoretical framework and practical insight to identify the factors and beliefs that influences customer service delivery in the Malaysian banking industry.

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